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NORTHERN FOREST EXPERIMENT STATION
MAY 6 - 1941

NORTHERN IDAHO'S FOREST PROBLEM
1941

Northern
Rocky Mountain
Forest & Range
Experiment Station
Missoula, Montana

M. Bradner, Director

FOREST SURVEY RELEASE № 19

APRIL 1941

This is a progress report of the

FOREST SURVEY

in the

Northern Rocky Mountain Region

R.K. Winters, Regional Director

Published in cooperation with the

UNIVERSITY OF IDAHO FOREST SCHOOL

D. S. Jeffers, Dean

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GENERALIZED FOREST TYPES
In Northern Idaho
1939

10 0 10 20 30
Scale of Miles

Legend

- ZONE OF WHITE PINE
- ZONE OF PONDEROSA PINE
- ZONE OF OTHER COMMERCIAL SPECIES
- SUBALPINE, BARREN AND ROCKY NONCOMMERCIAL
- AGRICULTURAL AND GRASS LAND

CANADA
WASHINGTON
OREGON
MONTANA
IDAHO
BOUNDARY
BONNER
KOOTENAI
SHOSHONE
BENEWAH
LATAH
CLEARWATER
NEZ PERCE
LEWIS
BONNERS FERRY
SANDPOINT
PRIEST RIVER
COEUR D'ALENE
KELLOGG
WALLACE
ST MARIES
POTLATCH
MOSCOW
ELK RIVER
OROFINO
LEWISTON
WINCHESTER
GRANGEVILLE
Kootenai River
Priest River
Pend Oreille R
Pend Oreille Lake
Clark Fk
Hayden Lake
Coeur d'Alene Lake
Coeur d'Alene River
St Joe River
Clearwater River
North fk Clearwater
Lochsa River
Selway River
Salmon River
Snake River

Note: The zones of commercial species indicate only economic predominance. In the white and ponderosa pine zones there is a general occurrence of other species.

JBL 7-40

NORTHERN IDAHO'S FOREST PROBLEM — 1941

by

S. Blair Hutchison & R. K. Winters

This is condensed from a more complete report, "The Northern Idaho Forest Situation" which will be published in the coming months.

the PROBLEM....

As a community, Northern Idaho should heed the fate of the fabled grasshopper. He lived with no thought for the future—which was all right until the "future" caught up with him.

Forty years ago, Northern Idaho enjoyed a wealth of timber and high hopes. Today, it has less timber, less hope, and an increasingly serious forest problem. Briefly, the problem is this: to stop the disastrous decline of the forest industries at the highest possible level, and to make the forests contribute the most to the welfare of the people who live here.

Some further decline is inevitable, regardless of what is done. However, the worst may be expected if nothing is done. The forests can be a real asset to the community if they are managed properly—not locked up, but used wisely and protected well. This requires understanding on the part of the people in Northern Idaho, and a willingness to act.

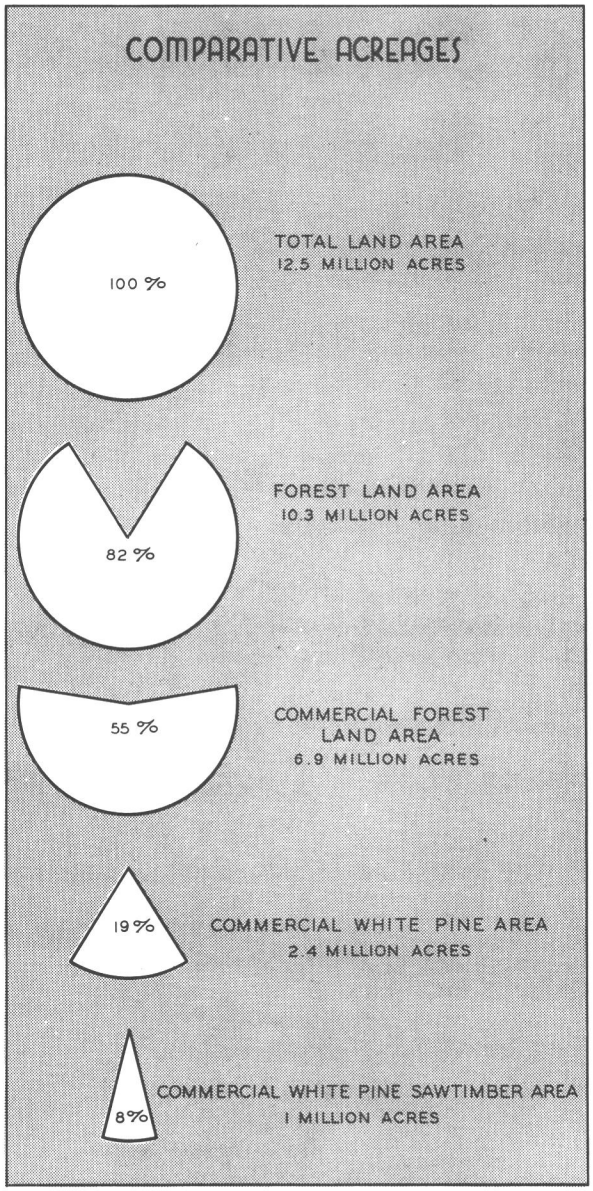
The following pages briefly present the situation, and suggestions for what seems to be a reasonable plan of action.

Northern Idaho is well endowed with forests, yet.....

.....homes like the one on the left are to be found in some lumber towns. This, of course, is not purely a local problem. Substandard living conditions are to be found in agricultural towns, in mining towns, and in manufacturing towns everywhere. The GREAT AMERICAN PROBLEM is to make a rich resource of land and a rich resource of man power produce the right standard of living for everybody.

the RESOURCE....

Northern Idaho's famous "scenery" cuts into commercial timber growing. One-third of the forest land has no value from a lumber standpoint. This lack of sawable values in the areas of stunted or remote timber is well offset, however. Cold blue alpine lakes and rugged, forest-clad mountains make the back country a primitive paradise to the nature lover. Here also rise some of the streams which furnish water for power and irrigation in the Columbia River basin. The mighty Columbia with its tributaries is more than incidental to the life of the Northwest. It is the keystone of agriculture and industry. Almost every great scheme or dream for the future is built around the Columbia in some way. Thus, possibly the greatest single value of the Northern Idaho forests is as a protector of these water supplies.



Scenery, and plenty of it, is an ever more valuable forest asset. Recreationists are a free-flowing source of income, and from gas station to hunting guide the local communities share the earnings of scenic lakes and forests.

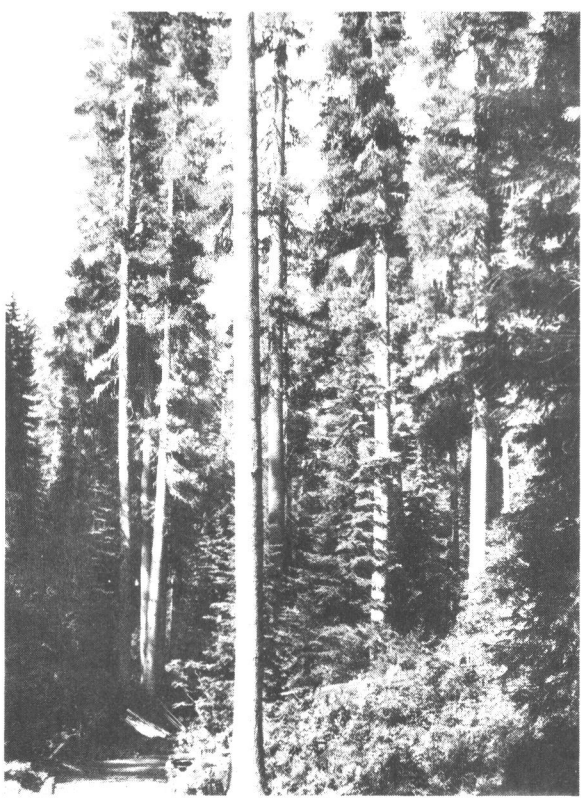
Not all of the 6.9 million acres of commercial forest land are of equal present importance. One million acres are largely deforested, and of the remainder only one million acres support white pine sawtimber stands. This is very significant because most of the lumber now being cut is white pine.

Commercial Forest Land

White pine areas	Million acres
Sawtimber	1.0
Young stands	1.3
Nonstocked	.6
Total	2.9
All other areas	
Sawtimber	1.6
Young stands	2.0
Nonstocked	.4
Total	4.0
All areas	6.9

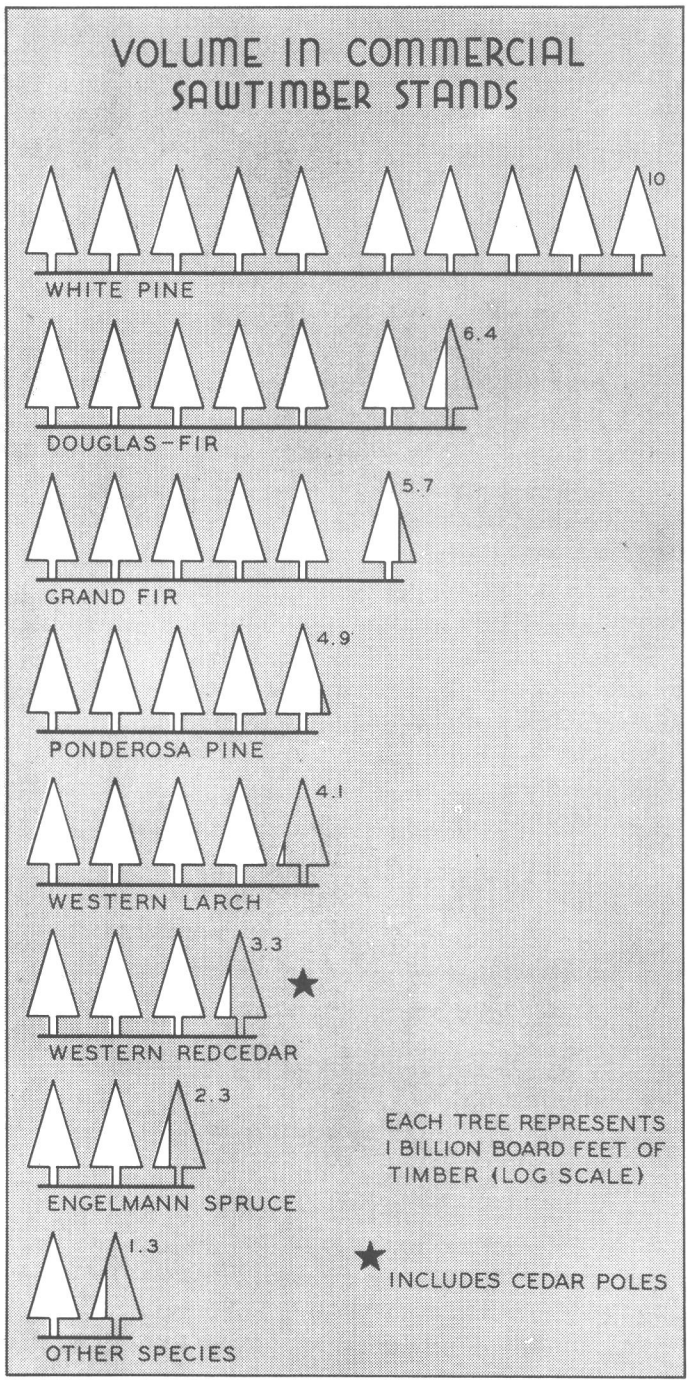
PHOTO—
WASHINGTON
NAT'L GUARD

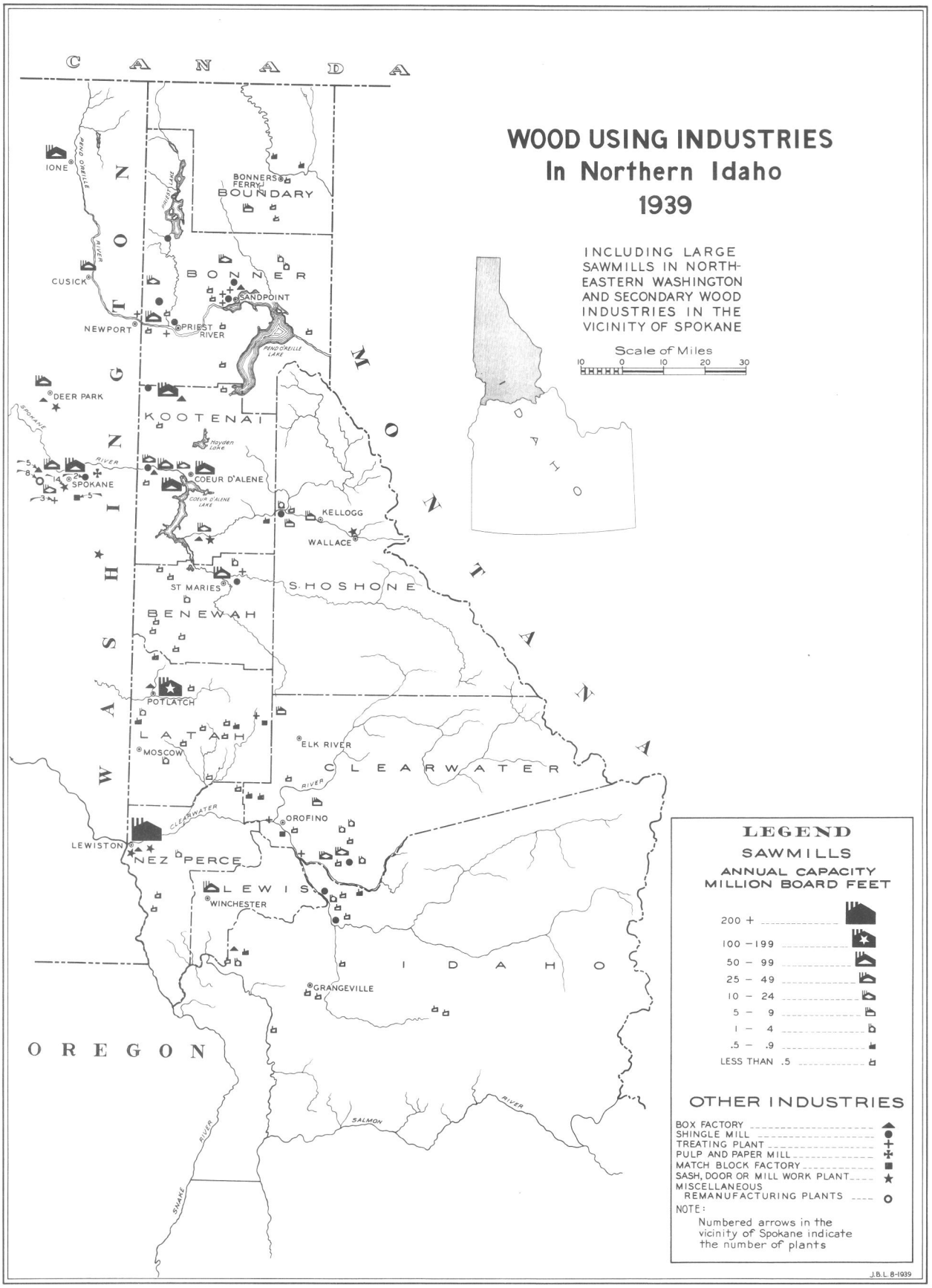
6.9 million acres of commercial forest land of which...



...stands of white pine like this one on the left are the cream. White pine sawtimber occupies only one-seventh of the commercial forest area.

The sawtimber stands of Northern Idaho contain about as much timber volume as the sawtimber stands of the Lake States. Of all species, there are 38 billion board feet. Of white pine, there are 10 billion board feet. That only one sawtimber tree out of four is white pine would be described by the sawmill operator as "unfortunate". Certainly it complicates the present forest problem. However, Time may eventually change this, if the less-used species improve sufficiently in value.




WOOD USING INDUSTRIES
In Northern Idaho
1939
INCLUDING LARGE SAWMILLS IN NORTH-EASTERN WASHINGTON AND SECONDARY WOOD INDUSTRIES IN THE VICINITY OF SPOKANE
Scale of Miles
10 0 10 20 30
CANADA
IONE
BONNERS FERRY
BOUNDARY
PEND OREILLE RIVER
PEND OREILLE LAKE
CUSICK
BONNER
SANDPOINT
NEWPORT
PRIEST RIVER
PEND OREILLE LAKE
DEER PARK
KOOTENAI
Hayden Lake
SPOKANE RIVER
SPOKANE
COEUR D'ALENE
COEUR D'ALENE LAKE
KELLOGG
WALLACE
ST MARIES
SHOSHONE
BENEWAH
POTLATCH
LATAH
MOSCOW
ELK RIVER
CLEARWATER
CLEARWATER RIVER
OROFINO
LEWISTON
NEZ PERCE
LEWIS
WINCHESTER
IDAHO
GRANGEVILLE
OREGON
SALMON RIVER
SNAKE RIVER
MONTANA
WASHINGTON
LEGEND
SAWMILLS
ANNUAL CAPACITY
MILLION BOARD FEET
200 +
100 – 199
50 – 99
25 – 49
10 – 24
5 – 9
1 – 4
.5 – .9
LESS THAN .5
OTHER INDUSTRIES
BOX FACTORY
SHINGLE MILL
TREATING PLANT
PULP AND PAPER MILL
MATCH BLOCK FACTORY
SASH, DOOR OR MILL WORK PLANT
MISCELLANEOUS REMANUFACTURING PLANTS
NOTE:
Numbered arrows in the vicinity of Spokane indicate the number of plants
J.B.L. 8-1939

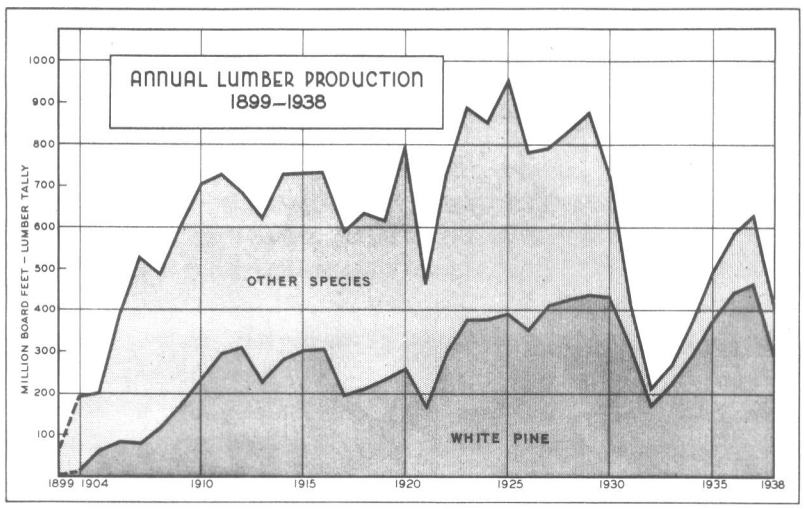
the LUMBER INDUSTRY....

Many and far-reaching changes have marked the past four decades of lumbering in Northern Idaho. In 1899 the forests were still pretty much in their virgin state——no more than whittled at along the edges. During 1899, the total lumber production was only 56 million board feet—a cut that could be equalled by any one of a half dozen present-day sawmills. At the beginning of the century, however, the once "limitless" pine stands of the Lake States began to "play out", and lumbermen surged to Northern Idaho to build one mill after another. By 1910 the mill output had multiplied 13-fold and the Idaho panhandle was one big, bustling lumber camp. The expansion did not stop with 1910, either. The curve of production rose and fell more or less with the fortunes of the Nation, but continued generally upward until 1925. In this year 955 million feet (lumber tally) of boards, plank, and timbers slid down the greenchains of Northern Idaho mills.

The story since 1925 has been very different. Production has fluctuated, but in general the industry has headed downwards. In 1932 the lumber cut was at its lowest ebb since 1905. In 1937, the best recent year up to 1940, the output was only two-thirds of the 1925 figure. Between 1925 and 1939, the number of larger sawmills dropped from 33 to 21.

The Northern Idaho lumber production was 1/3 lower in 1937 than in 1925. It might seem that since the United States production was likewise 1/3 lower in the latter year, there is no reason to be specially perturbed about the Northern Idaho decline. This reasoning would be fine if it were not for the question of species. As a matter of fact, the mill production of WHITE PINE WAS 18 PERCENT GREATER in 1937 than in 1925, and the production of OTHER SPECIES WAS 70 PERCENT LOWER.

Big mills produce most of the lumber in Northern Idaho. This plant at Lewiston is the biggest.



In 1925, 41 percent of lumber cut was white pine. In 1938 the proportion had risen to 71 percent.

Since three-fourths of the green timber cut is sawed into lumber, the concentration upon white pine has brought about the very lopsided forest drain shown in the following tabulation:

	INVENTORY All Sawtimber	CUTTING DRAIN All Sawtimber
White pine	25%	56%
Other species	75%	44%
	100%	100%

Unfortunately, the decline of the lumber industry has not been evenly distributed over Northern Idaho. In the north five counties (Boundary, Bonner, Kootenai, Benewah, and Shoshone), the decline since 1925 has been drastic. Big sawmills like the Dover, Humbird, and Blackwell plants have disappeared from the scene, and the lumber output has dropped sharply as is shown below:

Year	Million board feet-lumber tally
1925	705
1929	466
1937	292

When production falls off 59 percent, payrolls decline a like amount.

In 1925, the industry had not yet reached its peak in the south five counties (Latah, Clearwater, Nez Perce, Lewis, and Idaho). Not until 1927 was the mill constructed at Lewiston to manufacture the last great reservoir of white pine, which is located in Clearwater county. As a result, this territory has fared better during the past decade and a half, as is shown by the following lumber cut figures:

Year	Million board feet-lumber tally
1925	250
1929	410
1937	337

.....DIED IN 1927.....

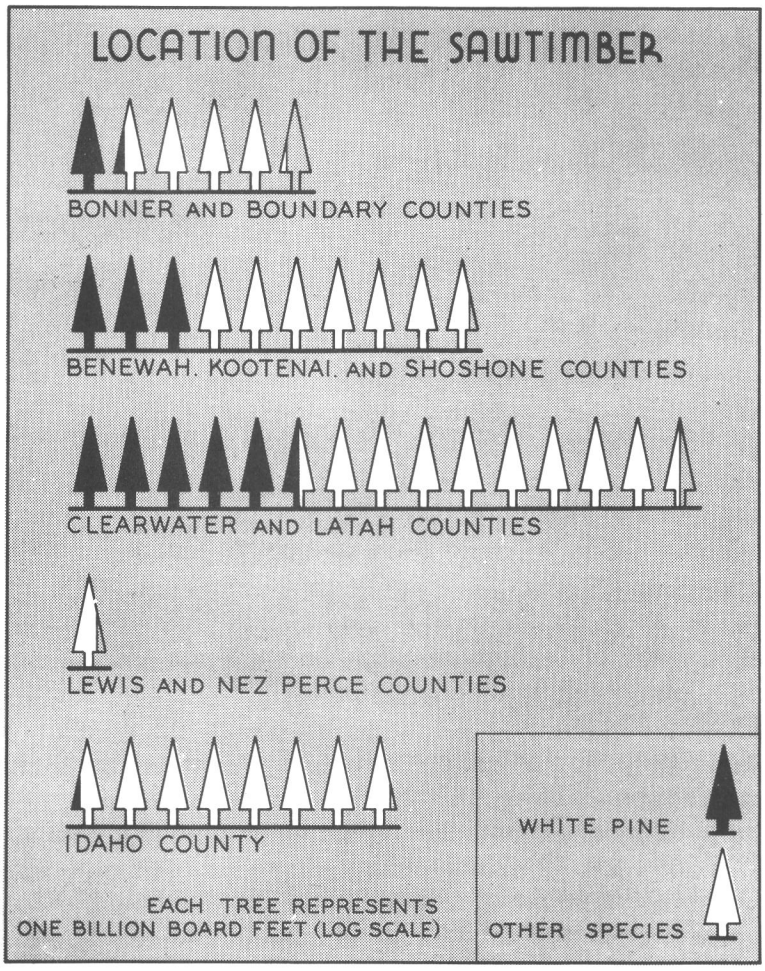
As lumber production has slipped from the 1925 peak certain localities have suffered the loss of their sawmills. This is the old Coeur d'Alene mill at Coeur d'Alene before it was torn down. Idle, it was an asset to no one. Running, it could furnish 400 jobs in woods and mill. Mill abandonment was inevitable, since the peak cutting drain was greatly above the sustainable producing capacity of the forest. But with better markets for the less-used species and proper forest practice, fewer mills need end up like this in the future.

There is still plenty of timber in the north five counties— 15 billion board feet (log scale), as a matter of fact. However, much of this timber is nonmarketable at present, so the situation is more difficult for the sawmills than the total figure would indicate. The upper chart on the opposite page shows that less than half of the remaining white pine is in these counties. Moreover, most of the white pine that is there is in the national forests. Only a part of the national forest white pine is available at any one time, as it is being cut on the basis of permanent management. Thus, as far as some mill owners are concerned, there is a shortage of white pine right now.

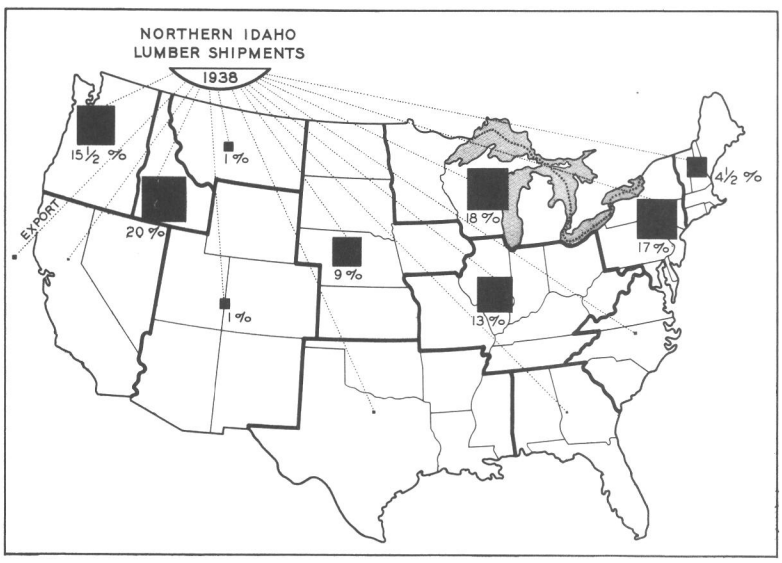
The problem of the other species is a matter of markets. Most of the lumber sawed in Northern Idaho must be sold in the Middle West and East. The mills in the Southern States are closer to much of this market and can get their products there cheaper. The Pacific Coast mills can get cheap shipment to the Atlantic Seaboard by way of the Panama Canal. They can produce lumber at a lower price and produce more top quality lumber because of big trees.

White pine can hurdle this stiff competitive barrier because of its high quality. So also can cedar poles, and, to a less extent, ponderosa pine. But the rest of the species have not been able to meet the competition, and their distribution outside this area in recent years has therefore been relatively limited.

As this is written, the emergency of defense efforts has brought about a change in the situation. Prices of the less-used species have improved. It is impossible to know now to what extent the cut of these species will increase as a consequence. However, with the passing of this temporary stimulus, there seems to be no present reason why such gains as do occur will not be largely lost, unless some fundamental change can be made in this region's competitive position.



Although only one-fifth of the forest area is in Clearwater and Latah counties, they contain 55 percent of the white pine. Coincidentally, 55 percent of the white pine logs came from this area in the period 1935-1938.



Lumber going out of Northern Idaho faces real competition. In 1938 this area supplied only 5 percent of the lumber consumed in Montana, Wyoming, North Dakota and South Dakota. Washington and Oregon supplied 34 percent of the lumber in this same market.

the SUSTAINABLE INDUSTRY....

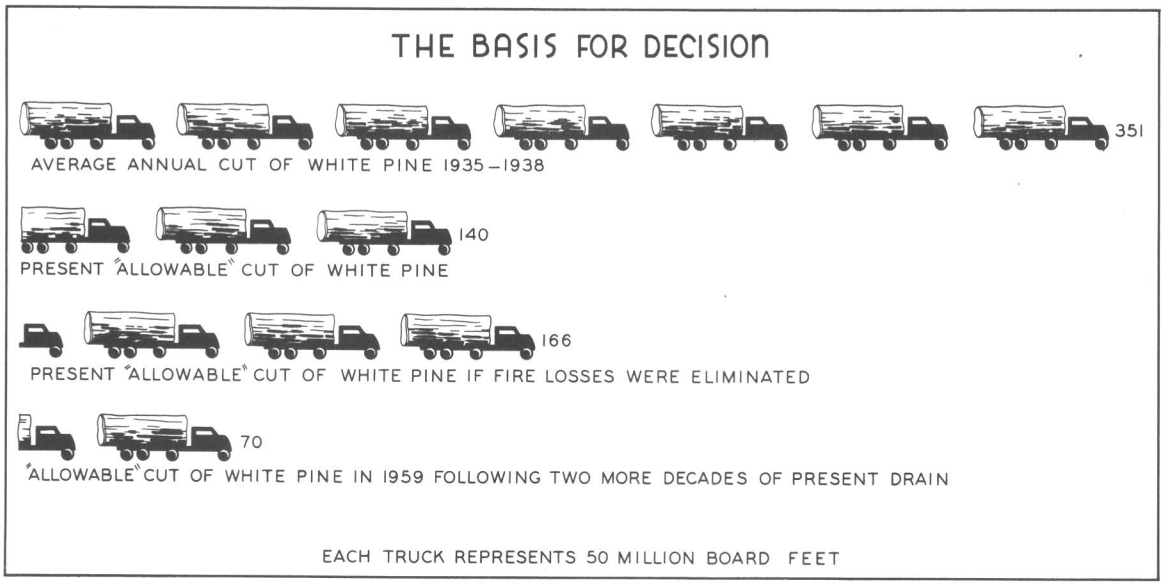
The forests are a renewable resource, but you cannot forever cut trees faster than they are being replaced. The weight of this self-evident fact is now being felt by those communities whose mills are scrambling for the remaining available white pine sawtimber.

With the present condition of stands, the forests of Northern Idaho can supply 140 million board feet of white pine a year without overshooting their producing capacity or "allowable cut". This is not very much. From 1935 to 1938 an average of 351 million board feet (log scale) of white pine was felled yearly. If it were not for past overcutting, the sustainable production of white pine could now be greater. Likewise, with proper management and improved fire protection, it may eventually be possible to raise the producing capacity of Northern Idaho to something over 200 million board feet of white pine a year. However, if the present heavy cut continues for 20 years more, the production after that may be forced to drop as low as 70 million feet a year.

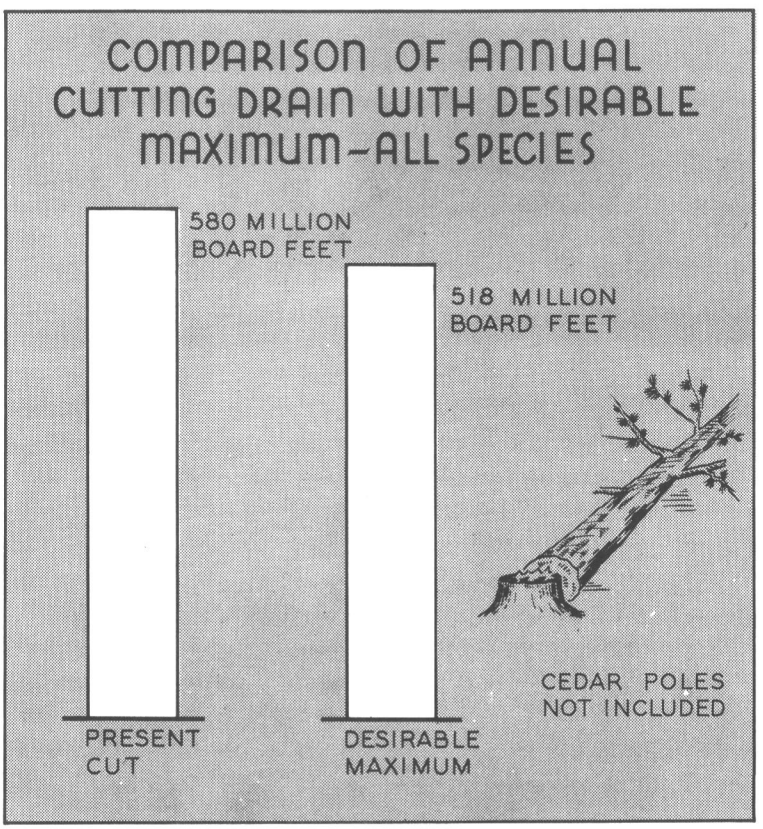
An average of 6,000 man-years of employment was furnished annually by the lumber industry from 1935 to 1938. If white pine production is reduced to 140 million board feet and the other species are utilized only at the present rate, employment would FALL to 3,600 man-years annually. However, it would eventually rise if the effects of past fires and excessive cutting were overcome.

There is a more hopeful side to the picture. If all species were to become completely marketable, the lumber industry would need to restrict its total cut only slightly to be on a sustainable basis. Moreover, if in addition fire losses could be reduced it might be possible to maintain a total production and employment higher than the 1935-1938 level.

Improved marketability of the less-used species is possible but by no means a sure thing. At one time more lumber was sawed from these species than at present, but that was when the Plains States were being settled. There is now a need for more effort to develop new products for old markets and new markets for old products. The freight-rate structure should also be examined to see what adjustments might be made to improve the marketability of the problem species.


THE BASIS FOR DECISION
351
AVERAGE ANNUAL CUT OF WHITE PINE 1935–1938
140
PRESENT "ALLOWABLE" CUT OF WHITE PINE
166
PRESENT "ALLOWABLE" CUT OF WHITE PINE IF FIRE LOSSES WERE ELIMINATED
70
"ALLOWABLE" CUT OF WHITE PINE IN 1959 FOLLOWING TWO MORE DECADES OF PRESENT DRAIN
EACH TRUCK REPRESENTS 50 MILLION BOARD FEET

Northern Idaho must decide....Above a certain point, the more white pine cut today the less for tomorrow.

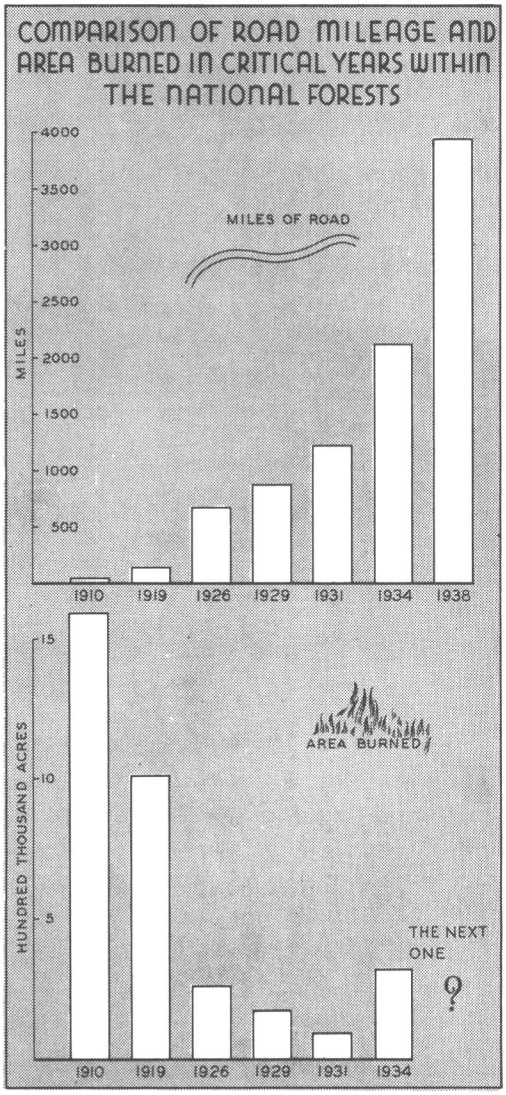

COMPARISON OF ANNUAL CUTTING DRAIN WITH DESIRABLE MAXIMUM-ALL SPECIES
580 MILLION BOARD FEET
518 MILLION BOARD FEET
CEDAR POLES NOT INCLUDED
PRESENT CUT
DESIRABLE MAXIMUM

IF.....all species were as readily marketed as white pine it would be possible to log 518 million board feet of timber without overcutting the resource. This is not much below the present total cut.

the PROTECTION PROBLEM....

The forests of Northern Idaho are among the most inflammable in the United States. It has therefore been necessary to wage a constant battle to keep fire from harvesting all of the timber.

Fire nearly did this in 1910, when one-sixth of the forest area burned and 6 billion board feet of sawtimber were killed. The loss reached such staggering proportions because facilities for fighting fire were almost completely lacking. There were practically no roads. The lookout stations were few, and these were often without telephones to report to the ranger, who had neither men, tools, nor transportation facilities adequate to cope with the situation. Thus, getting "on top of the fire problem" has involved the big and expensive task of constructing roads and other facilities, and training men to do the job. There have been serious fire losses in the past three decades, but none to compare with those of 1910. Because of efforts by private protective associations and the Forest Service, fewer fires have become "big ones" and fewer years "bad ones".



Despite the progress made in subjugating the "Red Devil", fire still reaps too large a part of the timber harvest. A considerable area is still inadequately protected. If it were not for fire losses the "allowable cut" of all species could be 20 percent greater than it is. The white pine burned each year represents the loss of one year's work for 340 men in woods and mill. Thus, directly and indirectly, the livelihood for 12 or 14 hundred persons is lost. The community income is reduced by one million dollars annually. It probably is not generally real-

...the results

The "granddaddy" of all fires in Northern Idaho was the one in 1910.

the coverage...

ized but for every 50 acres of white pine seedlings and saplings swept by fire, work for one man for a year goes up in smoke.

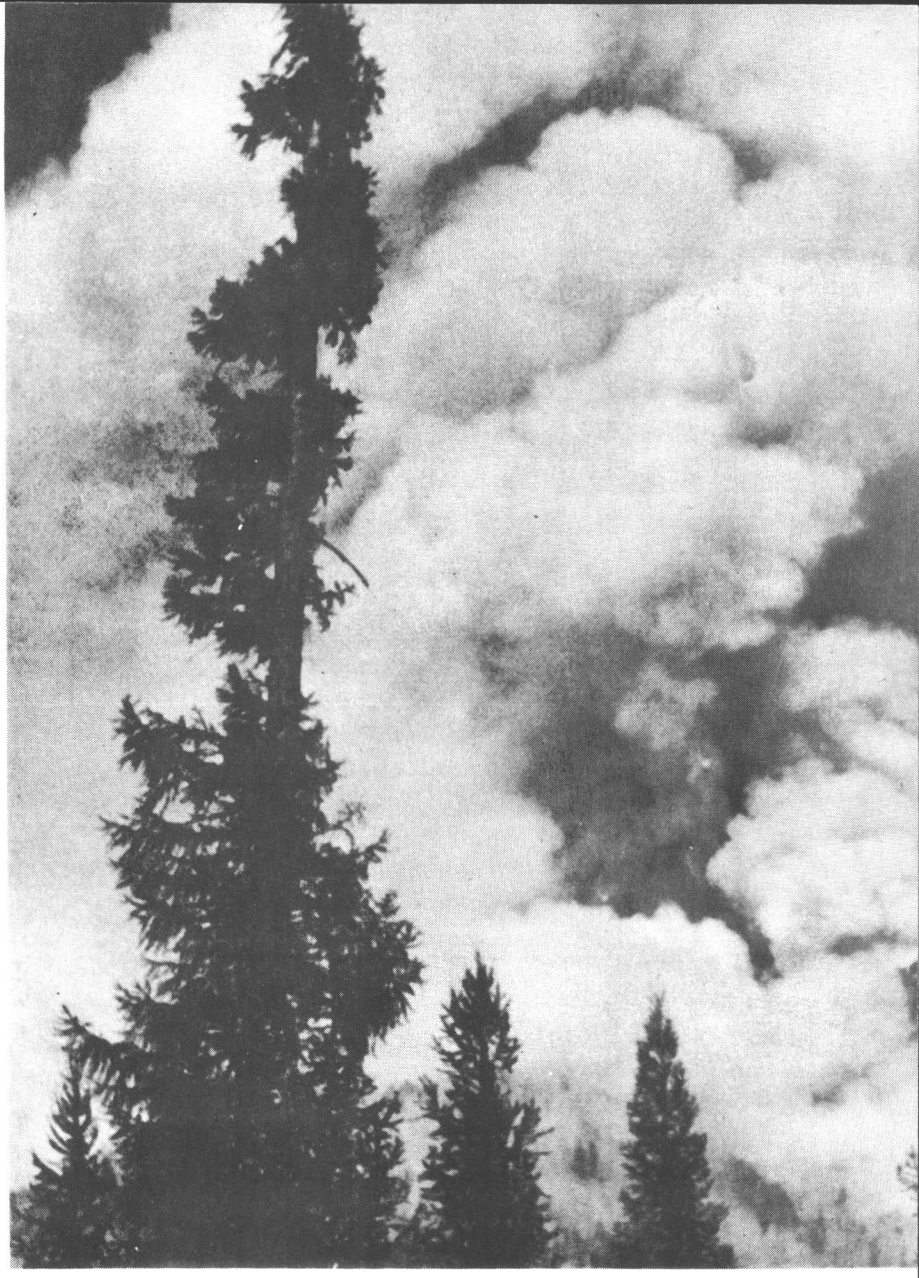
As if fire were not a sufficient problem, insects and the white pine blister rust disease add to the woes of the timber grower in Northern Idaho. Although the damage is more scattered, insects at present kill more white pine than fire. The blister rust disease, which came to Canada from Europe in 1910 and into Northern Idaho in 1923, is probably the most serious menace to white pine. Although this disease has not yet caused extensive damage, it is well established. Unless controlled, it will, according to experts, eventually eliminate white pine as a commercial species.

Fortunately, the control of blister rust is practicable though costly. The disease is not transmitted from pine to pine but from the pines to wild gooseberry and currant bushes and thence back to new pine trees. Thus the spread can be stopped by breaking the circle—by eliminating the bushes. This is what is being done, but with currants and gooseberries everywhere it has been a task to stagger the imagination. From 1923 to 1940, 351 million bushes were uprooted by hand. It has already been an expensive means of saving the white pine, and the job is far from done.

Despite the expense, the work is readily justified. Suppose, for example, it costs the public from 2 to 2½ dollars a thousand board feet to save white pine on the national forests. If this pine is sold to a mill owner for 6 dollars a thousand, the public thus gets back the money invested in blister rust control plus from 3½ to 4 dollars to help defray fire protection and other costs. The individuals of the community have the opportunity to receive 25 or 30 dollars per thousand board feet through the process of manufacturing this timber into lumber. Without blister rust control, the public would receive less revenue to help defray the expense of fire protection which would have to continue anyhow. Furthermore, there would be no white pine to help support the community.

There is, of course, an upper limit to what should be spent for blister rust. The same is true of insect and fire control. Fire fighting is a particularly expensive activity. When the appropriate charge for roads and other necessary improvements are added in, the yearly fire control bill on the national forests reaches the sizable figure of around 20 cents an acre. One of the bigger problems before the public administrators of forest land is to weigh social gains against administrative costs to determine this upper limit.

In the past, fire has often wreaked great changes in short order. The Freeman Lake fire of 1931 is an example of what has happened too frequently. Starting one morning, it spread to 20,000 acres by 11 pm the same day — 1,600 acres an hour for 12½ hours. Similarly, a combination of the "right" conditions enabled the Selway fires of 1934 to cover 252,000 acres before being corralled.



PHOTO—
BUREAU OF ENTOMOLOGY
AND PLANT QUARANTINE

Control of white pine blister rust has been largely a matter of "pull". Wild currants and gooseberry bushes have been uprooted by hand on 1.6 million acres. This has required 1.5 million man-days of work— a full-time job for one man for 6,000 years.

the PROBLEM OF OWNERSHIP....

Sixty years ago nearly all of the Northern Idaho forest land was publicly owned. During the next 30 years, a large part of the best stands passed into private ownership. Individuals had used the various means at their disposal to acquire forest land because mature timber appeared to be a good investment — and most of it probably was.

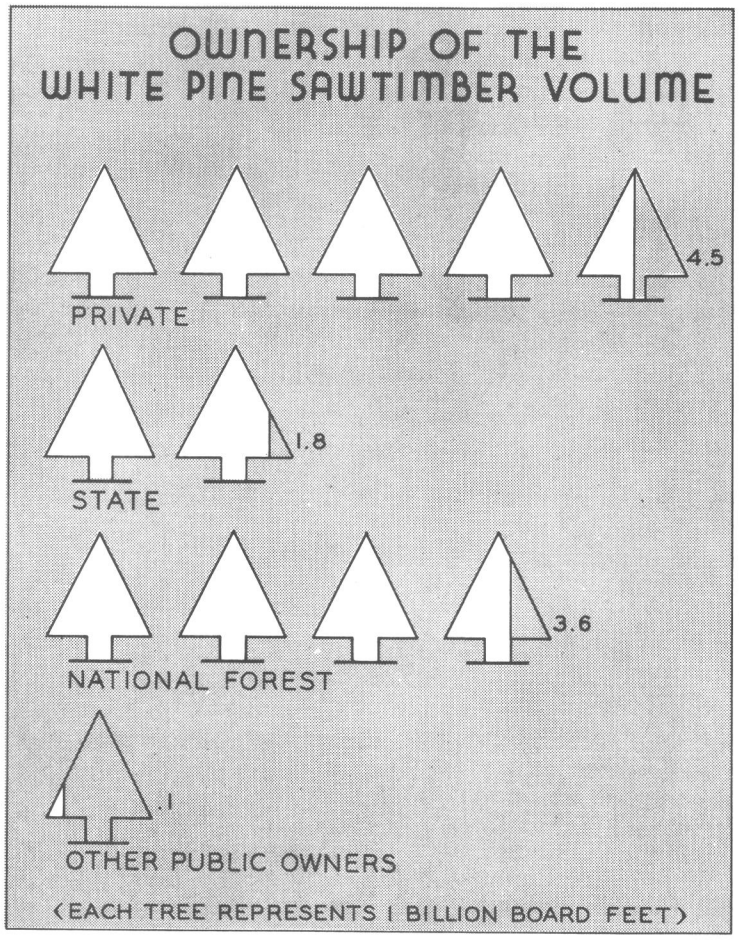
Today the picture is changing—the area of cutover land is increasing. It has been one thing for the private concern to log its merchantable timber; it is another to expect it to stay in the timber-growing business once the virgin stands are gone. Only one large operator is handling his forest land with a long-time plan. In the main, permanent forestry is not very attractive to the private owners. Among the explanations of this are the high risk of fire loss, poor markets for secondary species, heavy protection costs, high taxes, and large mills which must be kept running. Overshadowing these is the fact that when the timber operator starts with a high proportion of mature timber, he stands to make much more money by cutting this timber as quickly as possible rather than by logging slowly enough for a permanent operation.

At any rate, there is a movement of private forest land back into public ownership. In the 10-year period between 1928 and 1938, the rural acreage on the tax rolls decreased by 518,000 acres. This resulted mainly from tax foreclosures, and donation to the national forests of lands which otherwise would have become delinquent. Moreover, it seems inevitable that a very large acreage of forest land still privately owned will become delinquent. Routine tax delinquency procedure throws the lands onto the counties. If the counties could administer and protect these lands so as to keep them producing timber crops, county ownership would be satisfactory. However, under present conditions the counties are in no better position to care for forest land than the owner who lets his tax payments lapse.

It seems likely that the overcutting of privately-owned white pine will continue as long as mature trees are there to be cut. Actually, it would not be desirable to stop the overcutting all at once. A "tapering-off" would be more satisfactory from several standpoints. Fortunately for Northern Idaho, 54 percent of the white pine is owned by the State of Idaho and by the Federal Government in its national forests.

Properly handled, this timber can form a buffer which the eastern forest regions never had—a buffer which will prevent the progressive liquidation of private timber from eliminating the white pine industry, and which will cushion the effect of this liquidation upon the communities. The national forests are so managed that a perpetual cut is assured. The relatively large area of State forest is not being managed on this basis. To serve as a most effective buffer, this State timber should also be handled on a "perpetual-cut" basis.

The task of making the public forest land contribute the most to dependent communities has its handicaps. If any sawmill is to be a permanent fixture in its community and a continuing source of employment, the operator of this mill must own timber or be able to obtain it from others. A large part of the lumber industry will naturally depend on Government trees. Yet neither the State nor the Forest Service can at present earmark timber for any particular manufacturing plant and thus give it the guarantee of the resource for future operation. Timber must be sold by competitive bid, and the disposition of the timber in any transaction thus may or may not be to the local community's best interest.



WHAT SHOULD BE DONE····

Yesterday we molded Today. Today we mold Tomorrow. The Tomorrows in Idaho will not be the kind of days we desire unless positive action is taken to apply the remedies the forest situation calls for. Two lines of action appear necessary—Federal and local.

The Federal Government should:

1. Acquire forest land that private individuals, or the counties, or the State, are not likely to manage properly.

2. Appropriate more money to protect public forest lands from fire, insects, and disease, and to cooperate in furnishing the same protection to private lands.

3. Insist on certain minimum forest practices from the private owner in return for this Federal cooperation.

4. Pass a law permitting noncompetitive sales of national forest timber where such sales directly contribute to community stability.

5. Hold back national forest white pine wherever practicable, if private cutting is exceeding the total producing capacity of an area.

6. Investigate the possibilities of increasing the markets for the less-used species.

The principal opportunities for improving the situation, however, lie in local action. This has the advantage that lagging public opinion elsewhere in the United States cannot hinder local progress.

The people of Idaho should:

1. Place the State forests on a managed basis, and hold back the cutting of State white pine wherever practicable, if private cutting is exceeding the total productive capacity of an area.

2. Appropriate more money for administration of State laws regulating private forest practice, and strengthen these laws wherever necessary to keep private forest land productive.

3. Pass a law permitting noncompetitive sales of State timber where such sales directly contribute to community stability.

4. Do a better job of fire protection on some private and county lands.

5. Further the cause of private forestry through local planning boards and public agencies.

6. Save money in county government through zoning for proper land use, and by other means.

7. Adjust taxes on merchantable timber if adequate private forestry is guaranteed in return.

8. Donate tax-foreclosed forest lands to the State if the State is prepared to administer them, or, if not, to the national forests.

9. Help block out public forests through exchanges and donations.

These points outline no easy program, but it is a program which every farmer, laborer, and business man should have tucked in his hatband. The day of new frontiers is gone. The day of three more jobs around the corner has passed with it. Idaho is faced with the task of preserving the standard of living it has. There is more than trees to forest conservation. There are jobs, meals, and happiness.

8.4	AUTHOR Hutchinson, S. Blair and R. K. Winters
D	TITLE Northern Idaho's Forest Problem 1941

THE FOREST SURVEY is a fact-finding investigation within the Branch of Research of the Forest Service. It was set up to determine how much timber there is, how fast it is growing, how rapidly it is being cut, how much is being destroyed by fire, insects and disease, and what can be done to make the forests return the most to the community. An enormous volume of information of this nature has been collected for Northern Idaho. Of the many individuals engaged in this work, the following men have played a particularly important part:

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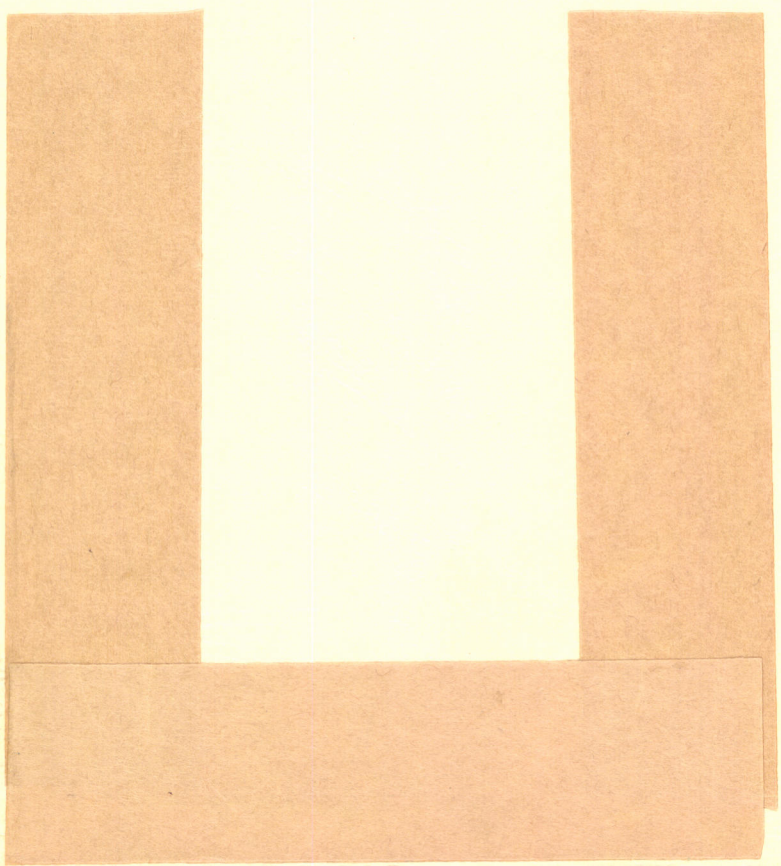
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